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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PARSLEY, DAVID J	
ART UNIT	**PAPER NUMBER**
3643	

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/648,932	LIPS ET AL.	
	Examiner	Art Unit	
	David J. Parsley	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10-12 and 28-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-12 and 28-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10-14-03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Amendment

1. This office action is in response to applicant's amendment dated 2-6-06 and this action is final.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,545,396 to Miller et al.

Referring to claim 1, Miller et al. discloses a liquid delivery system for horticultural application comprising, a controller device – at 14-15, 45 and 54-59, electrically connectable to a zone watering control system – at 16-28 and 50-52 – see for example figures 1-2, where the controller is configured to generate and transmit fluid control signals to selectively control the flow of pressurized fluid to a plurality of fluid delivery zones – at Regions I and II as seen in figures 1-2 and see column 3 lines 66-68 and column 4 lines 1-36, and the controller further configured to be electrically connectable to at least one additive injector – at 50,52 – see figures

1-2, for introducing liquid additive into the pressurized fluid flow – see at 28 and 52 in figure 2, the controller being further configured to generate a number of injection control pulses to selectively control an injection rate of the liquid additive into the pressurized fluid flow – see for example column 4 lines 30-36 and column 5 lines 13-52, wherein the number of injection control pulses is generated in accordance with at least a first criteria associated with the fluid control signals – see for example column 4 lines 5-68 and column 5 lines 1-52, where the criteria can be the user controlling the device or the criteria can be from the sensors in the soil or at 59.

Referring to claim 2, Miller et al. discloses the at least a first criteria associated with the fluid control signals include at least one of stored data from a memory structure – see column 4 lines 19-22, instructions entered through a user interface – see column 5 lines 4-12 and external data from at least a first external device – see at the soil sensors in column 4 lines 5-18 or the sensors – at 59.

Referring to claim 3, Miller et al. discloses the stored data includes at least one of zone information for each of the fluid delivery zone in the liquid delivery system – see at Regions I and II in figure 2, geographic information relating to at least a first environmental condition associated with the region in which the liquid delivery system is located – see for example column 4 lines 5-36, and horticultural information relating to plant types associated with each of the fluid delivery zone in the liquid delivery system – see for example column 4 lines 5-36.

Referring to claim 4, Miller et al. discloses the zone information includes a flow rate for the each of the fluid delivery zone – see for example column 4 lines 5-68 and column 5 lines 1-52.

Referring to claim 5, Miller et al. discloses the geographic information includes information relating to at least one of soil types associated with the region, precipitation information associated with the region – see for example the soil sensors in column 4 lines 5-36 and the meteorological sensors – at 59 in figure 2.

Referring to claim 6, Miller et al. discloses the external data received from at least a first external device includes at least one of, weather related information received from a weather sensor – at 59, in data communication with the controller – see for example figure 2, and soil related information – see column 4 lines 5-36, received from a soil sensor in data communications with the controller – see for example figure 2.

Referring to claim 7, Miller et al. discloses the injector control signals may be dynamically modified in response to a change detected in the at least first criteria – see for example column 4 lines 5-68 and column 5 lines 1-52.

Referring to claim 8, Miller et al. discloses the number of injection pulses comprise electrical controls for selectively controlling the rate the additive injector introduces the liquid additive into the pressurized fluid flow – see for example figure 2 and column 4 lines 5-68 and column 5 lines 1-52.

Referring to claim 12, Miller et al. discloses the controller further comprises a first controller – at 14, for generating the fluid control signals – see for example column 4 lines 43-65, and a second controller – at 15, adapted to operate in conjunction with the first controller – see figure 2, to generate the injection control pulses – see for example column 4 lines 5-36, wherein the second controller is in data communication with the first controller – see for example figure 2 and column 3 lines 47-65, column 4 lines 1-68 and column 5 lines 1-52.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. as applied to claim 1 above, and further in view of U.S. Patent No. 5,366,159 to Childers.

Referring to claim 10, Miller et al. does not disclose the additive injector comprises a piston for displacing a slug of liquid additive having a predetermined volume in response to each injection pulse. Childers does disclose the additive injector comprises a piston – at 6, for displacing a slug of liquid additive – inside 11, having a predetermined volume in response to each injection pulse – via 5,19,20. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Miller et al. and add the additive injector of Childers, so as to allow for the additive injection to be automatically controlled.

Referring to claim 27, Miller et al. does not disclose a solenoid that is operative in response to each injection pulse wherein the solenoid displaces a piston. Childers does disclose a solenoid – at 5,19, that is operative in response to each injection pulse to displace a piston – at 6 – see for example column 2 lines 31-56. Therefore it would have been obvious to one of ordinary

skill in the art to take the device of Miller et al. and add the solenoid valve of Childers, so as to allow for the additive injection to be automatically controlled.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. as applied to claim 1 above, and further in view of U.S. Patent No. 4,917,304 to Mazzei et al. Miller et al. does not disclose the controller is configured to generate a plurality of injection pulses to selectively control an injection rate of a plurality of liquid additives into the pressurized fluid flow. Mazzei et al. does disclose the controller – at 14,16, is configured to generate a plurality of injection pulses to selectively control an injection rate of a plurality of liquid additives – at 15-21, into the pressurized fluid flow – at 12 – see for example figure 1 and column 4 lines 1-68 column 5 lines 1-68 and column 6 lines 1-50. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Miller et al. and add the controller generating a plurality of signals to control the injection rate of a plurality of liquid additives of Mazzei et al., so as to allow for the device be adjustable for delivering different additives to the plants fed by the irrigation system.

Claims 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. in view of Childers.

Referring to claim 28, Miller et al. discloses a liquid delivery system for horticultural application, comprising, a controller – at 14-15, 45 and 54-59, electrically connectable to a zone watering control system – at 16-28 and 50-52 – see for example figures 1-2, where the controller is configured to generate and transmit fluid zone control signals to selectively control a pressurized fluid flow to a plurality of fluid delivery zones – see figure 2 and column 3 lines 66-68 and column 4 lines 1-36, and generate injection pulses to selectively control injection of a

predetermined number of slugs of liquid additive – at 50, into the pressurized fluid flow – see for example column 2 lines 66-68, column 4 lines 1-68, column 5 lines 1-68 and column 6 lines 1-10, wherein the predetermined number of slugs is generated in accordance with at least a first criteria associated with the fluid zone control signals – see figure 2, column 2 lines 66-68, column 4 lines 1-68, column 5 lines 1-68 and column 6 lines 1-10, and an injector – at 52m for injecting liquid additive – at 50, into the pressurized flow – inside 28, wherein the injector displaces a slug of liquid additive in response to each injection pulse – see figure 2 and column 2 lines 66-68, column 4 lines 1-68, column 5 lines 1-68 and column 6 lines 1-10. Miller et al. does not disclose the injector includes a piston for displacing a slug of liquid additive in response to each injection pulse. Childers does disclose the additive injector comprises a piston – at 6, for displacing a slug of liquid additive – inside 11, having a predetermined volume in response to each injection pulse – via 5,19,20. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Miller et al. and add the additive injector of Childers, so as to allow for the additive injection to be automatically controlled.

Referring to claim 29, Miller et al. as modified by Childers further discloses the injector further comprises a solenoid – at 5,19, operatively connected to the piston – at 6, wherein each of the injection pulses actuates the solenoid – see for example column 2 lines 31-56 of Childers.

Referring to claim 30, Miller et al. as modified by Childers further discloses the at least a first criteria associated with the fluid control signals include at least one of stored data from a memory structure – see column 4 lines 19-22 of Miller et al., instructions entered through a user interface – see column 5 lines 4-12 of Miller et al. and external data from at least a first external

device – see at the soil sensors in column 4 lines 5-18 of Miller et al. or the sensors – at 59 of Miller et al.

Referring to claim 31, Miller et al. as modified by Childers further discloses the stored data includes at least one of zone information for each of the fluid delivery zone in the liquid delivery system – see at Regions I and II in figure 2 of Miller et al., geographic information relating to at least a first environmental condition associated with the region in which the liquid delivery system is located – see for example column 4 lines 5-36 of Miller et al., and horticultural information relating to plant types associated with each of the fluid delivery zone in the liquid delivery system – see for example column 4 lines 5-36 of Miller et al.

Referring to claim 32, Miller et al. as modified by Childers further discloses the zone information includes a flow rate for the each of the fluid delivery zone – see for example column 4 lines 5-68 and column 5 lines 1-52 of Miller et al.

Referring to claim 33, Miller et al. as modified by Childers further discloses the geographic information includes information relating to at least one of soil types associated with the region, precipitation information associated with the region – see for example the soil sensors in column 4 lines 5-36 of Miller et al. and the meteorological sensors – at 59 in figure 2 of Miller et al.

Referring to claim 34, Miller et al. as modified by Childers further discloses the external data received from at least a first external device includes at least one of, weather related information received from a weather sensor – at 59, in data communication with the controller – see for example figure 2, and soil related information – see column 4 lines 5-36 of Miller et al.,

received from a soil sensor in data communications with the controller – see for example figure 2 of Miller et al.

Response to Arguments

4. Regarding claims 1 and 11, the Miller et al. reference US 4545396 discloses an electrical controller – at 14,15, which electrically controls the flow of pressurized fluid – inside 28 via the pump – at 16 and selectively controls the number of injection pulses that selectively control the injection of a corresponding number of slugs of liquid additive into the pressurized fluid flow – at 50 via the injector – at 52 – see figure 2 and columns 3-5. The Miller et al. reference does disclose a number of injection pulses are made to allow for a corresponding number of slugs of liquid additive to be added to the pressurized fluid flow, in that a number of pulses can be construed as any number of pulses including zero or one or a plurality and as seen in columns 3-5 a pulse is disclosed to inject liquid additive and then other pulses are disclosed that can inject liquid additive to a different region as seen in figure 2 and therefore multiple pulses and injections are disclosed by the Miller et al. reference.

Applicant's arguments with respect to claim 10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Parsley whose telephone number is (571) 272-6890. The examiner can normally be reached on Monday-Friday from 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571) 272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DP

David Parsley
Patent Examiner
Art Unit 3643

PETER M. POON
SUPERVISORY PATENT EXAMINER

4/6/06